

WE CLAIM:

1. An electrical connector assembly comprising:

an insulating housing comprising a first face and an opposite second face, the insulating housing comprising a first array of receiving spaces extending from the second face toward the first face thereof and a first array of cavities extending from the first face toward the second face thereof and respectively communicating with the receiving spaces;

a plurality of mating ports assembled to the insulating housing and respectively received in the cavities of the insulating housing;

a first terminal group assembled to the insulating housing and comprising a plurality of terminal units, each terminal unit comprising a contacting portion exposed in a corresponding receiving space and a plurality of tail portions;

a second terminal group assembled to the insulating housing and comprising a plurality of arms respectively extending into the receiving spaces of the housing; and

a third terminal group assembled to the insulating housing and electrically connecting with the tail portions of the first terminal group.

2. The electrical connector assembly as described in claim 1, wherein the insulating housing further comprises a second array of receiving spaces parallel to the first array of spaces, and wherein the receiving spaces are arranged alternately.

3. The electrical connector assembly as described in claim 1, wherein each cavity of the insulating housing comprises a pair of trapeziform spaces and a cylindrical hole connecting the trapeziform spaces, and wherein each mating port comprises a cylindrical neck received in the cylindrical hole and a pair of projections respectively received in the pair of trapeziform spaces.

4. The electrical connector assembly as described in claim 3, wherein each terminal unit of the first terminal group comprises a pair of halves oriented 180 degrees relative to each other, and wherein the insulating housing defines a plurality of first and third slots communicating with a corresponding receiving space thereof to receive each half of the first terminal group.

5. The electrical connector assembly as disclosed in claim 4, wherein each half comprises a first board portion, a second board portion parallel to the first board portion, and wherein the contacting portion curly extends from the first board portion toward the second board portion.

6. The electrical connector assembly as described in claim 5, wherein the insulating housing defines a plurality of second slots communicating with corresponding receiving spaces thereof to receive the arms of the second terminal group.

7. The electrical connector assembly as described in claim 6, wherein the second terminal group comprises a body strip, the arms and an insert leg adapted for connecting to a printed circuit board, and wherein the arms are spaced apart and extend from the body strip.

8. The electrical connector assembly as described in claim 7, wherein the third terminal group comprises a plurality of sets of transition contacts, and wherein each transition contact comprises a mating portion received in a corresponding third slot and electrically connected with a corresponding tail portion of the first terminal group.

9. The electrical connector assembly as described in claim 8, further comprising a spacer defining a plurality of passages therethrough, and wherein the

transition contacts of the third terminal group comprise a plurality of terminating portions extending vertically from the mating portions through the passages.

10. The electrical connector assembly as described in claim 9, wherein the spacer is step-shaped and comprises a first step and a second step, and wherein the passages are respectively defined through the first and the second steps.

11. The electrical connector assembly as described in claim 9, wherein the spacer comprises a panel and a base vertically extending from the panel, and wherein the insulating housing forms a pair of latching edges engaging with the base.

12. The electrical connector assembly as described in claim 9, further comprising a plurality of retaining blocks respectively engaging with the insulating housing and the spacer to secure the spacer to the housing.

13. The electrical connector assembly as described in claim 12, wherein each retaining block comprises a body section and a pair of retaining latches extending from the body section and engaging with the housing.

14. The electrical connector assembly as described in claim 13, wherein the body section of the retaining block defines an opening in a side thereof, and wherein the spacer forms a post received in the opening of the retaining block.

15. The electrical connector assembly as described in claim 1, further comprising a metal shield enclosing the insulating housing.

16. An audio socket connector comprising:

an insulating housing comprising a first face and an opposite second face, the

insulating housing comprising a cavity extending from the first face and a receiving space extending from the second face;

a plurality of signal terminals and grounding contacts respectively received in the receiving space; and

a mating port assembled to the insulating housing and received in the cavity, the mating port comprising a neck exposed beyond the first face of the insulating housing.

17. The electrical connector assembly as described in claim 16, further comprises a plurality of transition contacts electrically connected with the signal terminals.

18. A multi-port connector assembly comprising:

a unitary insulative housing defining a plurality of cavities arranged in rows and columns in a front portion and a plurality of receiving spaces in a rear portion and in aligned communication with the corresponding cavities in a front-to-back direction, respectively;

said cavities being arranged in at least two columns;

plural groups of signal terminals forwardly inserted into the corresponding receiving spaces, respectively, said groups being similar to one another;

at least two grounding terminals each with arms extending into the corresponding receiving spaces, respectively;

a spacer located behind the housing and defining plural sets of vertical passageways, said plural sets of vertical passageways being arranged in at least two columns corresponding to said at least two columns of the cavities, respectively;

and

plural sets of transition contacts located between said plural groups of signal terminals and the spacer, said plural sets of transition contacts being arranged in at least two columns corresponding to said at least two columns of the cavities and said at least two columns of vertical passageways, each set of transition contacts defining horizontal sections mechanically and electrically engaged with the corresponding group of signal terminals, respectively, and vertical sections received in and aligned by the corresponding set of vertical passageways, respectively; wherein

the horizontal sections of the transition contacts in each individual set are similar with one another, while those in different sets in the same column are different from one another under a condition that the transition contacts located in a higher level have longer horizontal sections than those in a lower level.

19. The assembly as described in claim 18, wherein said two columns of the vertical passageways are asymmetrically arranged by two side of an imaginary center plane of said housing which divides said cavities into said two columns;

20. The assembly as described in claim 18, further including a plurality of blocks attached to the rear portion of the housing and engaged with different positions of said spacer, wherein said blocks are arranged in at least two columns in compliance with said two columns of the cavities.

21. The assembly as described in claim 18, further including a plurality of mating ports being attached to the front portion of the housing, wherein said mating ports are arranged with at least two columns, and at least one of said mating ports defines a color different from those of others.

22. The assembly as described in claim 21, wherein each of said mating ports includes a projection received in the corresponding cavity and behind a front face of the housing.

23. The assembly as described in claim 18, wherein said spacer defines two spaced vertical slots to receive said two grounding terminals therein, respectively.

24. The assembly as described in claim 223, wherein said two slots are different from each other.